

**U.S. Department of the Interior  
Bureau of Land Management**

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**Environmental Assessment  
DOI-BLM-NV-L020-2010-0006-EA  
April 6, 2010**

**LAKE VALLEY 10-29 OIL WELL**

*Location:*  
*Applicant/Address:*

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# Lake Valley 10-29 Environmental Assessment

## Table of Contents

<b>1.0 INTRODUCTION.....</b>	<b>4</b>
1.1 Background: .....	4
1.2 Purpose of the Proposed Action: .....	6
1.3 Need for the Proposed Action: .....	6
1.4 Conformance with BLM Land Use Plan(s): .....	6
1.5 Relationship to Statutes, Regulations, or other Plans: .....	7
1.6 Identification of Issues:.....	7
<b>2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION ..</b>	<b>8</b>
2.1 Introduction: .....	8
2.2 Alternative A - Proposed Action: .....	8
2.2.1 Introduction and Well Location .....	8
2.2.2 Access Road Construction.....	9
2.2.3 Right-Of-Way .....	12
2.2.4 Bonding for Disturbance .....	14
2.2.5 Well site Layout.....	14
2.2.6 Reserve Pit .....	15
2.2.7 Frac Pit.....	15
2.2.8 Sundry Notices .....	16
2.2.9 Location of Existing and/or Proposed Facilities if the Well is Productive	17
2.2.10 Water Source .....	17
2.2.11 Source of Construction Materials.....	18
2.2.12 Waste Materials .....	21
2.2.13 Reclamation .....	21
2.2.14 Monitoring.....	22
2.3 Alternative B - No Action:.....	22
2.4 Alternatives Considered, but Eliminated from Further Analysis:.....	22
<b>3.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL IMPACTS .....</b>	<b>23</b>
3.1 Introduction: .....	23
3.2 General Setting: .....	23
3.3 Resources/Concerns Analyzed:.....	24
3.4 Visual Resource Management (VRM): .....	27
3.4.1 Alternative A - Affected Environment .....	27
3.4.2 Alternative A - Environmental Effects .....	27
3.4.3 No Action Alternative .....	27
3.5 Noxious and Non-native Invasive Species: .....	27
3.5.1 Alternative A - Affected Environment .....	27
3.5.2 Alternative A - Environmental Effects .....	28
3.5.3 No Action Alternative .....	28
<b>4.0 CUMULATIVE IMPACTS .....</b>	<b>28</b>
4.1 Introduction: .....	28
4.2 Cumulative Effects Conclusion: .....	29
4.2.1 Visual Resource Management .....	29
4.2.2 Noxious Weeds and Invasive Non-native Species .....	29

4.3 Proposed Mitigation and Monitoring: .....	29
4.3.1 Proposed Mitigation.....	29
4.3.2 Proposed Monitoring .....	30
5.0 CONSULTATION AND COORDINATION .....	30
5.1 Introduction: .....	30
5.2 Persons, Groups and Agencies Consulted: .....	30
5.3 Summary of Public Participation: .....	30
5.4 List of Preparers / Reviewers: .....	31
5.4.1 BLM .....	31
6.0 ACRONYMS AND REFERENCES .....	32
6.1 Acronyms .....	32
6.2 References .....	32
Attachment 1 .....	35
Attachment 2 .....	37
Attachment 3 .....	38
Attachment 4 .....	39
Attachment 5 .....	40
Attachment 6 .....	49

## Lake Valley 10-29 Oil Well

### 1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze Cabot Oil & Gas Corporation's proposal relative to drilling a wildcat oil exploration well, located in Lake Valley, Lincoln County, Nevada. The EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA assists the Bureau of Land Management (BLM) in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by NEPA and is found in Chapter 40 of the Code of Federal Regulations (CFR) §§1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI).

This document is tiered to the *Ely Proposed Resource Management Plan/Final Environmental Impact Statement* (RMP/EIS) released in November 2007. Should a determination be made that implementation of the proposed or alternative actions would not result in "significant environmental impacts" or "significant environmental impacts beyond those already addressed in the RMP/EIS", a FONSI will be prepared to document that determination, and a Decision Record issued providing the rationale for approving the chosen alternative.

### 1.1 Background:

Cabot Oil & Gas Corporation proposes to drill a wildcat oil well, located in MDM T. 8N., R. 66E., section 29, approximately three miles east of Highway 93, as shown in figure 1. There were three previous oil exploration wells drilled in Lake Valley within 12 miles of the proposed well location since 1984. All though two of the wells had oil showings, none to date has produced any oil or gas.

**Table 1**  
**Oil Wells Drilled in Lake Valley, Southeast of Ely, Lincoln County, Nevada**

Permit No	Well Name	Show	Year Drilled	Total Depth	Bottom of Alluvium	T	R	Sec.
424	Shogrin Federal No.1	Oil	1985	9,178'	1,534'	6N	66E	16
421	Dutch John Unit No.1	Water	1985	12,750'	2,196'	7N	66E	21
484	Saguaro Unit No.1	Oil/water	1987	6,930'	2,000'	8N	66E	9

Cabot Oil & Gas holds the 1,920-acre lease for the proposed oil well location until 2019. Banko Petroleum Management filed a Notice of Staking on October 6, 2009 for Cabot Oil & Gas. A site visit was conducted on October 14, 2009 with BLM resource specialists, D.R. Griffin & Associates (surveyor) and Dana Consultants (permitting).



## **1.2 Purpose of the Proposed Action:**

The BLM's purpose in considering approval of the application to drill an exploration oil well is to provide legitimate use of the public lands to the proponent. Legitimate uses are those that are authorized under the Federal Lands Management Policy (FLPMA) of 1976 or other Public Land Acts and meet the proponent's objective while preventing undue and unnecessary degradation.

The purpose of the Lake Valley 10-29 well is to test for oil and gas. Should a discovery be made, the well would be put into production with no additional ground disturbance. This NEPA analysis will evaluate both the exploration drilling and potential production of the Lake Valley 10-29 well location, if successful and desirable, subject to existing oil and gas regulations. A discovery may likely lead to additional drilling and perhaps development of a field, all of which would require additional NEPA analysis.

## **1.3 Need for the Proposed Action:**

The BLM needs to consider approval of the application for drilling oil well to respond to its mandate under the FLPMA to manage the public lands for multiple uses. This must be in a manner that recognizes the Nation's need for more domestic oil to help run our Nation's economy and to reduce our dependency on foreign oil, while providing protection of other resources and uses.

Drilling operations within present leases cannot be cancelled by the denial of an APD. The Mineral Leasing Act of 1920, as amended, and the Mineral Leasing Act for Acquired Lands of 1947, as amended, gives the BLM responsibility for oil and gas leasing on about 570 million acres of BLM, National Forest, and other Federal lands, as well as private lands where the Federal Government has retained mineral rights. Leasing areas are developed through BLM's planning process. The lessee has a right to drill for oil and gas within that lease as well as access to the proposed well site by a road. The selected route has to be reasonable and not cause unnecessary or undue degradation to the environment.

## **1.4 Conformance with BLM Land Use Plan(s):**

The Proposed Action is in conformance with the Ely District Approved Resource Management Plan (August 20, 2008), which states, "To provide for the responsible development of mineral resources to meet local, regional, and national needs, while providing for the protection of other resources and uses." In addition, "Timing limitations indicate that a leased area generally is open to development activities except during a specified period of time to protect identified resource values such as wildlife." (page 92)

This document is tiered to by reference the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007).

### **1.5 Relationship to Statutes, Regulations, or other Plans:**

The Lincoln County Public Land Management and Use Plan (1996) does not specifically address oil and gas leasing. However, the proposed action is consistent with this Plan, which states (Policy 2, p.13) that, “Lincoln County promotes multiple use of mineral resource to realize an essential and continuous supply of minerals. Such essential levels assumes that minimal lands be given single use designations and that the maximum areas of land be outside wilderness areas and be available for active and intensive explorations, development, and management.”

The application for permit to drill would be required to follow best management practices as outlined in the BLM oil and gas Gold Book, as well as, on-shore regulations, individual surface use plans, and conditions of approval that are part of the Decision Record (DR) for this environmental assessment/Findings of No Significant Impacts (FONSI), prepared for this site-specific project.

The access road siting and management plan shall be prepared incorporating existing BLM standards regarding road design, construction, and maintenance such as those described in the BLM 9113 Manual (BLM 1985) and the *Surface Operating Standards for Oil and Gas Exploration and Development* (RMRCC 1989) (i.e., the Gold Book).

### **1.6 Identification of Issues:**

While many issues may arise during scoping, not all of the issues raised warrant analysis. Issues raised through scoping are analyzed if:

- Analysis of the issue is necessary to make a reasoned choice between alternatives.
- The issue is significant (an issue associated with a significant direct, indirect, or cumulative impact, or where analysis is necessary to determine the significance of impacts).
- There is a disagreement about the best way to use a resource, or resolve an unwanted resource condition, or potentially significant effects of a proposed action or alternative.

An interdisciplinary (ID) team analyzed the potential consequences of the proposed action during internal scoping held on October 19, 2009. The following issues were analyzed within this EA as a result of scoping:

- Visual Resource Management (VRM)
- Non-native Invasive and Noxious Species

A letter notifying interested public was posted on the BLM website and mailed to specific people obtained from our BLM Minerals mailing list. The public scoping period began on January 4, 2010 through January 29, 2010. BLM Resource Specialists evaluated the issues brought forward by the public, and determined if they met the above criteria.

## 2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

### 2.1 Introduction:

The previous chapter presented the Purpose and Need of the proposed project, as well as the relevant issues, i.e., those elements that could be affected by the implementation of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has developed a range of action alternatives. These alternatives, as well as a no action alternative, are presented below. The potential environmental impacts or consequences resulting from the implementation of each alternative are then analyzed in Chapter 3 for each of the identified issues.

### 2.2 Alternative A - Proposed Action:

#### 2.2.1 Introduction and Well Location

The BLM Schell Field Office received Cabot Oil & Gas Corporation's Notice of Staking (NOS) on October 7, 2009 to begin the process of drilling an exploration oil well in Lake Valley on their federal lease #NVN86819. Members of the BLM, a survey firm, and a consultant firm held a pre-drilling meeting onsite on October 14, 2009 to assess and discuss potential issues for the project. An Application Permit to Drill (APD) followed on December 28, 2009.



**Figure 2:** Well location stake in ground



The proposed Lake Valley 10-29 well site is approximately 62 miles south from Ely, Nevada, off US Highway 93. Heading south on Highway 93, turn left 9.6 miles past the Lincoln County line on a two-track road that leads to a NDOT mineral material site. Continue east on the two-track past the pit and down slope on to the valley floor to section 29 of Township 8 North, Range 66 East.

### ***2.2.2 Access Road Construction***

Road construction shall be conducted under the direction of a qualified construction supervisor(s). The qualified construction supervisor shall be an engineer, company superintendant or other representative who is competent and knowledgeable in oilfield road and drill site construction, and able to speak for the operator.



**Figure 3:** Shows deep footprints in the soft dry lakebed surface

Soft conditions exist across most of the valley floor, as shown in figure 3. Therefore, road construction in these areas may require higher standards to ensure rutting does not occur throughout the life of the new temporary road. The project area soil has one or more features that are considered unfavorable for road construction. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Due to soft soil conditions on the valley floor, approximately 6,400 feet of an existing two-track may require at least six inches of gravel compaction to accommodate vehicular traffic. In order to protect wildlife, wild horses, livestock, and other animals, a 25 mph speed limit would be enforced on the new road.

Over 16,650 feet of new or improved road would be constructed to reach the well pad, as shown on Figure 5. The travel surface width would be 14-16 feet in width and a total disturbance width of no more than 50 feet. Total disturbance for the three miles of new road would be a maximum of 18 acres. Turnouts would be engineered at 750-1,000 foot intervals.

Culverts 18" x 30' would be installed where needed prior to commencement of drilling operations. Riprap would be placed at the inlet and outlet of each culvert to control erosion during large precipitation events. Drainage would consist of wing ditches between the existing road and the well site installed where needed prior to drilling operations commencing.

No major road cuts are necessary. No fence cuts, gates, or cattle guards will be required, either.

Any existing vegetation would be mowed to eliminate potential migratory bird nesting habitat and to increase the soil's fertility for reclamation. All available topsoil would be bladed off mixing in the mowed vegetation and furrowed to the left and right of the road.

The roads would be "crowned and ditched" by Gold Book standards (figure 4). Borrow ditches are created by pulling material from the sides and drifting it to the center of the road thus, elevating the roadbed. Areas with wetter soils require deeper ditches and higher crowns. A layer of 6-12 inches of gravel would be spread over the entire 14-16 foot wide travel surface to reduce dust and rutting. The furrowed topsoil is then re-spread across the two borrow ditches all the way to meet the road surface and seeded immediately to curtail the introduction of invasive or noxious weeds.

Plans for improvement and/or maintenance of existing roads would be to maintain in as good or better conditions than at present. A regular maintenance plan would include, but not be limited to blading, ditching, and surfacing.

## 2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

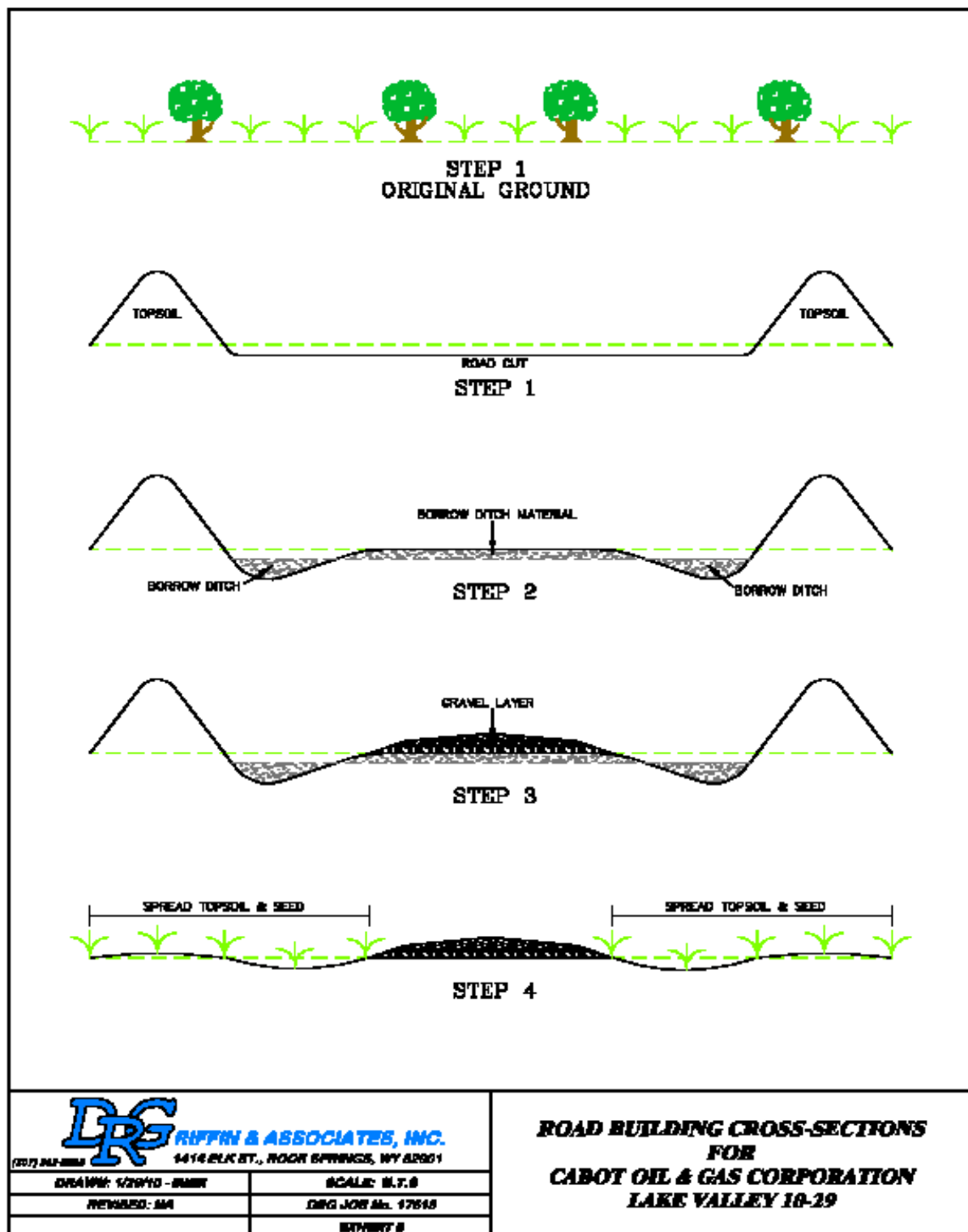


Figure 4: Crown and Ditch road construction steps profile

## 2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

### 2.2.3 Right-Of-Way

Because the access route to the well pad under federal lease #NVN86819 crosses three other federal leases, NVN86808, NVN87317, and NVN86825 on public land, a right-of-way (ROW) must be granted by the BLM before any construction can begin, in accordance with 43 CFR 2800. A nonrefundable processing fee and rental fee shall be collected from the proponent before issuing the grant.

#### Right-Of-Way Summary:

##### Access Roads on Federal Lands

##### Existing Roads

###### BLM Surface:

T8N R65E	Sec. 23	0.1 mi	650'	SENE,SWNE	Off Lease
T8N R65E	Sec. 24	1.2 mi	6,386'	S2NW	Off Lease
<b>Sub total:</b>		<b>1.3 mi</b>	<b>7,036'</b>		<b>Off Lease</b>

###### State Surface:

None	0.0 mi	0'
	<b>0.0 mi</b>	<b>0'</b>

###### Fee Surface:

None	0.0 mi	0'
	<b>0.0 mi</b>	<b>0'</b>

##### New Road Construction

T8N R66E	Sec. 29	0.1 mi	462'	NWNW	On Lease- (Applied in APD)
T8N R66E	Sec. 30	0.4 mi	1,908'	N2NE	Off Lease
T8N R66E	Sec. 19	0.7 mi	3,518'	S2S2	Off Lease
T8N R65E	Sec. 24	0.2 mi	1,211'	E2SE, NE, S2NW	Off Lease
T8N R65E	Sec. 23	0.6 mi	3,165'	S2NE	Off Lease
<b>Sub total:</b>		<b>2.0 mi</b>	<b>10,264'</b>		

**TOTAL:** **3.3 mi** **17,300'**

It is BLM's objective to grant rights-of-way under the regulations to any qualified individual, business, or government entity and to direct and control the use of rights-of-way on public lands in a manner that:

- (a) Protects the natural resources associated with public lands and adjacent lands, whether private or administered by a government entity,
- (b) Prevents unnecessary or undue degradation to public lands,
- (c) Promotes the use of rights-of-way in common considering engineering and technological compatibility, national security, and land use plans; and

(d) Coordinates, to the fullest extent possible, all BLM actions under the regulations in this part with state and local governments, interested individuals, and appropriate quasi-public entities.



**Figure 5:** Total BLM Road Right-Of-Way 3.3 miles, or approximately 17,300 feet from Highway 93 to Section 23 of Township 8 North, Range 66 East

BLM must expeditiously manage this project to meet environmental, legal, and regulatory requirements, including Executive Order 13212, Section 2, which states, “For energy-related projects, agencies shall expedite their review of permits or take other actions as necessary to accelerate the completion of such projects...including bringing the process to an expeditious conclusion...while maintaining safety, public health, environmental protections...”

By not granting a ROW to Cabot Oil, the proposed drilling project would not occur. No unnecessary or undue degradation to public lands would occur from the proposed action, or by granting a ROW to access their proposed well pad.

## 2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

### 2.2.4 Bonding for Disturbance

Cabot Oil & Gas Corporation would be bonded as required under 43 CFR 3104. A total of approximately four miles of off-lease new road and 0.1 miles of on-lease access road construction would be required to access the proposed well site.

The estimated total acreage of surface disturbance for the proposed action is shown in the table below.

Component	On Lease	Dimensions (L) x (W) (ft)	Acres of New Disturbance	Acres Reclaimed (Well in Production)	Acres Reclaimed (Well Abandoned)
Unimproved 2 track access rd	Off	675 x 16	0	0	0
Improved rd. const.	Off	6,386 x 50	7.3	3.7*	5.5**
New rd. const.	Off	9,840 x 50	11.3	5.6*	11.3
New rd. const.	On	462 x 50	0.5	0.25*	0.5
Well site area	On	475 x 290	3.2	1.4	3.2
Frac Pit area	On	230 x 200	1.1	1.1	1.1
Flare Pit	On	50 x 50	0.01	0.01	0.01
Reserve Pit	On	240 x 180	1.0	1.0	1.0
<b>Total</b>			<b>24.4 acres</b>	<b>13.1 acres</b>	<b>22.6 acres</b>

\* Reclaim road to 25-foot wide long-term disturbance

\*\* Reclaim road back to pre-disturbance 12-foot wide disturbance

### 2.2.5 Well site Layout

The well site layout for Lake Valley 10-29, shown in Figure 6 would be constructed on flat slope. The vegetation on the pad would be mowed, same as the new roads. The topsoil would be scraped and furrowed around the perimeter of the pad and seeded. The pad elevation may need to be increased by using the excavated pit material, then topped with a thick layer of gravel, and compacted. Matting or geo-fabric may be required under the rig, due to soft conditions.

The existing ground surface is relatively flat; therefore, minimal cut and fill would be required, except where the pits would be located (Figure 6). There, all available topsoil would be stripped from the locations, stockpiled separately for future reclamation, and immediately seeded with the interim seed mix shown in Attachment 3.

The surface material would be obtained from a BLM permitted off-site gravel source shown on Figure 1. The useable surface for operations would be approximately 1.8 acres. Total well site surface disturbance, which would include topsoil, excavated reserve pit spoils, and additional storage, would total approximately 5.3 acres.

The earthwork contractor would be provided with an approved copy of the operations plan in accordance with 43 CFR 3164.

No permanent living facilities are proposed for the sites, but there would be trailers on location during drilling operations, which would serve as temporary offices and housing for the drilling supervisor, well site geologist, and other personnel. All units would be self-contained, maintained, and serviced by local suppliers.

#### **2.2.6 Reserve Pit**

The reserve pit would be designed to exclude surface runoff. It would be constructed entirely in cut material, and lined with an impermeable synthetic material meeting the following criteria:

- minimum thickness of 12 millimeters;
- sufficient size and quality to sustain a hydraulic conductivity no greater than  $1 \times 10^{-7}$  cm/sec after installation;
- sufficiently reinforced to withstand normal wear and tear associated with the installation and pit use thereof;
- chemically compatible with all substances that may be put into the pit.

The pit would be fenced and flagged on the three exposed sides during drilling operations to prevent wildlife and livestock from falling into the pit. Once drilling operations are completed, the fourth side would be completed and remain fenced until the pit has dried and backfilling and grading are completed. Recommended fencing diagrams, reproduced from the “Gold Book”, are shown in Attachment 2.

The flare pit shown on Figure 6, used in air drilling, if used, will be located at least 100 feet from the wellbore.

#### **2.2.7 Frac Pit**

The frac pit, as shown in figure 6, would only be constructed if the well is determined to be in an oil bearing formation. Construction would consist of removing all available topsoil and stockpiling in a berm to be used during reclamation. The pit itself would be approximately 180' x 150' x 14' in dimension and used only to store fresh water. The pit would be bermed and lined with an impermeable synthetic material.

The pit would be fenced and flagged on all four exposed sides during drilling operations to prevent wildlife and livestock from falling into the pit. Once drilling operations are completed, the pit would remain fenced until the pit has dried, liner removed and disposed of, and backfilling and grading are completed. Recommended fencing diagrams, reproduced from the “Gold Book”, are shown in Attachment 2.

Hydraulic Fracturing “Fracing” (also often referred to as hydrofracing) is a process in which a fluid is injected at high pressure into an oil or a natural gas deposit to fracture the rock and release the liquid or gas below.

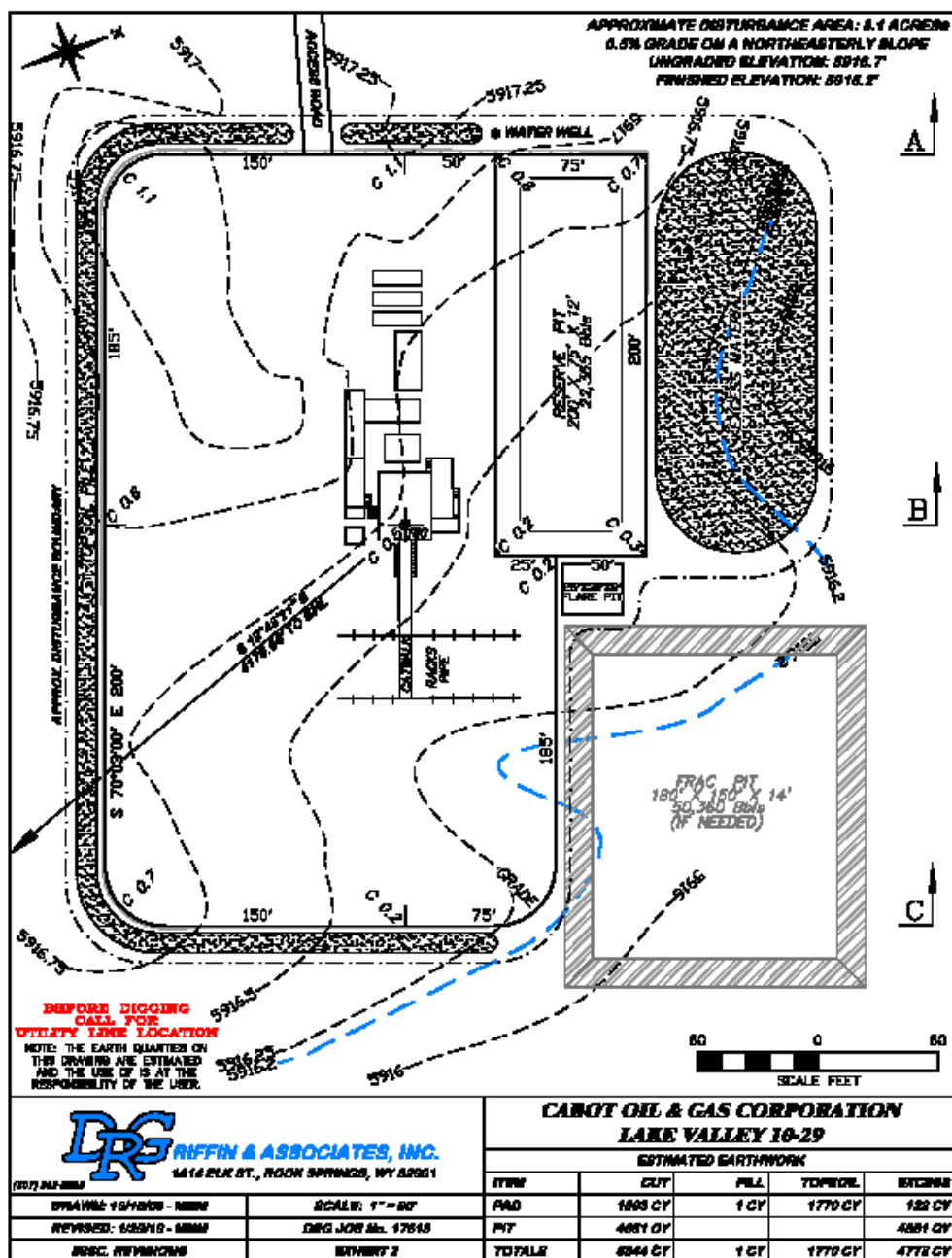


Figure 6: Lake Valley 10-29 Well Site Layout

### 2.2.8 Sundry Notices

A Sundry Notice (SN) and Report on Wells (form 3160-5) would be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3162. Should the well be placed into production, operations could last for several years. Production



operations are generally handled through Sundry Notices and associated permitting, unless they involve additional disturbance for which additional NEPA analysis is required.

### ***2.2.9 Location of Existing and/or Proposed Facilities if the Well is Productive***

There are no existing production facilities on the 1,920-acre lease or within 100 miles. The nearest refinery is approximately 130 miles west of the project area in Railroad Valley. Typical activities consist of development of the well, installation of pumping and storage facilities, hauling of the oil to a process facility – usually one to two tanker truckloads per month, well servicing, routine maintenance and plugging of well.

If production were established at this location, tank batteries and production facilities would be located on the well location. The BLM would be contacted prior to construction of the production facilities and a SN filed. All portions of the well location not needed for production would be reclaimed. A SN showing the location of tank batteries and production facilities would be submitted prior to operations. Production would be expected to last for several years.

Production equipment would be painted light reflective colors to limit evaporation and waste of liquid hydrocarbons. All above ground structures would be painted to blend with the surrounding landscape, such as Covert Green (18-0617 TPX). Lighting would be selected consistent with “Dark Sky” lighting practices to avoid visual distraction to persons and wildlife in the area. The tallest structure would be no more than 20 feet in height.

### ***2.2.10 Water Source***

Several existing water wells used for irrigation and stock water purposes are located within two to five miles of the proposed well. Limited data reviewed from these wells indicate their flow rate may be inadequate to supply enough water for this project. However, some of these wells could be used to supplement a water well drilled on location. Arrangements to secure water from one of these sources have not been provided at the time of this EA.

The majority of water needed for construction and drilling operations would be obtained from drilling a new temporary water well on the western edge of proposed well pad, located in Section 29 of T. 8 N, R. 66 E. The temporary water well would be permitted through the Nevada Division of Water Resources. Groundwater could be encountered anywhere between 17-120 feet below ground surface, based on data obtained from well logs in the area. Construction of the well would adhere to the State of Nevada’s NAC 534 regulations. The well would be plugged and abandon in accordance to Nevada Division of Water Resources guidelines after drilling activities are completed.

**Water Usage for Project:**

Mud drilling operations:	500,000 gallons
*Hydrofracing:	3,570,000 gallons
<u>Dust abatement:</u>	<u>40,000 gallons</u>
<b>Total:</b>	<b>4,110,000 gallons</b>

***2.2.11 Source of Construction Materials***

Construction materials would consist of native materials from borrow ditches and excavated pit material. Surfacing material for the roads and pad would be obtained from available permitted sources on public land. A total of 8,000 cubic yards of gravel may be required to surface 16,688 feet of road six inches thick and two acres of well pad twelve inches thick. Three possible source areas were considered in this EA. None of these pits are certified weed-free. Test pits were dug on March 16, 2010 to determine which area provides the best construction material under a categorical exclusion (CX).



**Figure 7:** Photo of South Lake Valley Pit looking south-southeast direction.

- 1) The South Lake Valley Pit is an abandon pit located approximately 1.3 miles north of the proposed well access road on the east side of Highway 93 (Figure 1). This pit is on public land; however, there is no documentation of prior sales or permits. A site inspection provided evidence of a loose aggregate on the surface

consisting of alkali-coated carbonates and volcanics from surrounding mountain ranges ranging in size from ¼” to 4” in diameter (Figure 7). Test pits revealed adequate gravels within hardpan layers below the surface that makes it difficult to mine.

Reclamation would consist of regrading any high walls to match surrounding topography. Since the BLM does not wish to maintain the pit for future sales, the pit and access road would be reclaimed. Only sparse vegetation exists as seen in figure 7.

Access to the pit is from Highway 93 through a cattle fence for the Geyser Ranch allotment. There is no well-defined access road to the pit. Therefore, the access route to the pit would require improvements and 100% reclamation. Any permits or authorization to egress Highway 93 would be obtained through NDOT.

Currently, this pit area is only being used for grazing purposes. A barbed-wire gate entry would have to remain close at all times by the operator in order to prevent any cattle from wandering outside the fenced allotment and on to the highway.

The pit would be excavated in a manner that shields it from view by vehicles passing by on Highway 93. Fugitive dust would only be created during pit activities from heavy equipment loading material into trucks. There are no wildlife, cultural, or other environmental concerns with using material from this pit.

- 2) The Milk Ranch Pit is another abandon pit located approximately 2.6 miles south of the proposed well access road to the west of Highway 93 (Figure 1). This pit is also on public land with no documentation of prior sales or permits. A site inspection revealed a more compact and cleaner aggregate consisting of mostly carbonates and some volcanic gravels ranging from ¼” to 4” in size. However, test pits revealed only thin layers of gravel underlain by silty clay and overlain by hardpan. Because of the information obtained from digging test pits, this location has been dropped from further consideration.
- 3) A third option is to develop a new borrow source on public land along the proposed well access road just east of the Nevada Department of Transportation (NDOT) pit and pole line (Figure 1). More than likely, this topographic high feature is a gravel beach bar or ancient lake terrace. A test pit was dug at this site to determine the quality of material. The test pit revealed well-sorted gravel in a loamy silty-sand matrix. There is question whether this material would compact well enough to make a sound road surface. However, this material may be good to help maintain the road, once it is built with the other pit material.

Currently, this area is only being used for valley floor access and possibly grazing purposes. A cattle guard is located at the highway egress. Only low shrubs exist on this topographic high as seen in figure 8.

This area is almost one mile from the highway and should have minimal visual concerns. The pit would be excavated in a manner that shields it from view by vehicles passing by on Highway 93. Fugitive dust would only be created during pit activities from heavy equipment loading material into trucks.

There is no wildlife, cultural, or other environmental concerns with using material from this pit.

Reclamation would consist of regrading any high walls to match surrounding topography and removing any trash or debris. The existing two-track would be left intact or a new one developed in its place, if it were destroyed during pit development. Seeding would also occur as a condition of approval.

*Summary:* A sales contract will be issued for the purchase of the off-site gravel material with site-specific conditions of approval attached.



**Figure 8:** Photo of proposed new pit area with pole line in the background looking west along existing two-track.

### ***2.2.12 Waste Materials***

Drill cuttings and fluids would be contained in the reserve pit. The cuttings would be buried in the reserve pit after the drilling fluids have been allowed to evaporate. The drilling fluid, itself, consists of mostly water, bentonite, lost circulation materials such as paper and wood products, and the drill cuttings.

During drilling operations, additives would be mixed with the drilling fluid in order to control the pH, viscosity, and density of the fluid. The additives are non-toxic, either as a fluid or when dried. The fluids are recycled through the reserve pit where the cuttings settle out and the fluids are pumped back down the hole. Hydrocarbons would not be allowed to accumulate in the reserve pit. The reserve pit would be allowed to dry for six months before backfilling. Fluids would not be drained onto the surrounding surface.

Petroleum products in the form of fuels and lubricants would be temporarily stored and used on site in a safe manner. Any spills of hydrocarbons from equipment on site would be promptly cleaned up and removed from the location in accordance with state and federal regulations. Testing of oil during drilling would be done into an enclosed, gaugeable tank on location. No oil would be tested to the reserve pit.

All other waste and trash that accumulate during the drilling operations would be contained in a trash cage or dumpster. Wastes would be removed periodically from the location and taken to an approved landfill. Burning would not be allowed on the well site. Chemical toilets with holding tanks would be utilized. All sewage would be disposed of in accordance with county, state, and federal regulations.

### ***2.2.13 Reclamation***

Interim reclamation would begin concurrently with well site construction activities. Any portion of the well pad not being used would be reclaimed and interim seeded. Topsoil would be stockpiled and bermed along the edges of the drill pad and not commingled with other material. The stockpiles would be seeded immediately and again, if needed, during the first recommended seeding period (October 1 to March 15) with the interim seed mixture shown in Attachment 3. All available topsoil from the access road construction would be seeded during interim reclamation.

Salvaging and spreading of topsoil during final reclamation would not be performed when the ground or topsoil is frozen or too wet to adequately support construction equipment. If such equipment creates ruts in excess of four inches deep, the soil would be deemed too wet to perform earthwork.

Well abandonment and plugging would follow the procedures of 43 CFR 3162.3-4. If the well were not put into production, the location and surrounding area would be cleaned of all material and debris. All excavations would be backfilled and compacted from bottom to top immediately upon completion of drilling operations. The reserve pit would be

completely fenced off and flagged on all four sides to prevent access by wildlife, wild horses, and livestock. Any oil spills remaining in the reserve pit after drilling operations would be removed in accordance with state and federal regulations prior to allowing pit drying to take place.

The compacted gravel from the well pad and constructed road would be removed and hauled away to another location in an attempt to improve chances of revegetation. Any gravel remaining on the pad and road would be ripped and mixed with the underlying material. Compacted soils within the disturbed areas would be broken up into a fine-grained seedbed by disking or any other generally accepted method of preparation.

The saved topsoil would be distributed over the re-contoured area. Seed from the recommended final seed mix (Attachment 4) would be planted by drill seed or broadcast technique during the recommended seeding period of October 1 to March 15. The ground surface would be left in a rough, pocked way to discourage vehicular traffic and to better capture and hold moisture.

#### ***2.2.14 Monitoring***

Monitoring of mineral action disturbances will ensure compliance with Title 43 Code of Federal Regulations Subparts 3100 (oil and gas leasing). Monitoring activities would consist of annual field inspections by an authorized officer of the BLM of mineral extraction disturbances. Actions would be taken to ensure that reclamation standards are met as quickly as reasonably practical.

This monitoring would consist of checks on initial location of facilities, conformance to the APD and Conditions of Approval, and the status of any reclamation. Post-drilling compliance inspections would document, among other things, conformance with the proposed action, completion of earthworks of the reclamation plan, and monitoring for vegetative success and any new noxious weed infestations.

#### **2.3 Alternative B - No Action:**

The proposed action would not occur and no exploration well would be drilled or access road constructed.

#### **2.4 Alternatives Considered, but Eliminated from Further Analysis:**

The operator proposed a much longer alternate route to the well pad that would require improving nine miles of existing gravel roads and two-tracks, in addition to the construction of 1.5 miles of new road that would enter the well pad from the east. However, after no cultural or wildlife concerns were found during the initial site visit, the more direct route of the two proposed access routes would be the best option, and the alternative route was dropped from consideration.



### 3.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL IMPACTS

#### 3.1 Introduction:

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area.

#### 3.2 General Setting:

Lake Valley is located in the northern most section of Lincoln County, Nevada, approximately 62 miles south-southeast from Ely, Nevada. The project area is situated on the valley floor in between the Schell Creek and Fortification ranges. The present day valley floor was once a Pleistocene lake that dried up after the last ice age. The vegetative community consists mainly of sagebrush, rabbitbrush, and greasewood. The valley floor consists of loose eolian lacustrine-deposited material.

The proposed well pad location is at an elevation of 5,925 feet. The area receives approximately 10-12 inches of precipitation a year, mostly in the form of snow. The project area is located within the Geyser Ranch allotment.



**Figure 9:** Project area showing vegetative community and onsite crew.

### 3.3 Resources/Concerns Analyzed:

The following items have been evaluated for the potential for significant impacts to occur, either directly, indirectly or cumulatively, due to implementation of the proposed action. Potential impacts were evaluated in accordance with criteria listed in section 1.6 of this paper to determine if detailed analysis was required. Consideration of some of these items is to ensure compliance with laws, statutes or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general, and to the Ely District BLM in particular.

Resource/Concern	Issue(s) Analyzed ? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis
Air Quality	N	There could be a slight temporary increased particulate matter (dust) resulting from the proposed action. The affected area is not within an area of non-attainment or areas where total suspended particulates or other criteria pollutants exceed Nevada air quality standards. Direct, indirect or cumulative impacts do not approach a level of significance. Dust suppression measures are a part of the proposed action. Detailed analysis is not required.
Cultural Resources	N	A Class III intensive cultural resources inventory was conducted on all possible ground disturbing portions of this project. All known cultural resource sites eligible for the National Register of Historic Places will be avoided.  If any cultural resource sites are discovered during the implementation of this project, all work will cease within 100 yards of the site and the BLM Archaeologist will be contacted immediately.
Forest Health	N	Project location occurs outside of forest and/or woodland areas. No impacts to forest health will occur directly, indirectly or cumulatively.
Migratory Birds	N	No surface disturbance will occur between April 15 <sup>th</sup> and July 15 <sup>th</sup> without conducting a bird survey.
Rangeland Standards and Guidelines	N	Not affected by proposed action, because the project area only encompasses 23 acres. The Soil Mapping Unit (SMU) that this project is located within is approximately 18,600 acres of an old Pleistocene lake bed. The dominate vegetation is 4-wing salt brush, and rabbit

## 3.0 AFFECTED ENVIRONMENT



		brush. No grasses or forbs were observed on the field trip to the location.
Native American Religious and other Concerns	N	Not affected by proposed action
FWS Listed or proposed for listing Threatened or Endangered Species or critical habitat. In addition, ACEC designated to protect Desert Tortoises and Southwest Willow Flycatcher, Big Spring spinedace (Caliente) and Pahrump Poolfish (Schell) critical habitat.	N	Not present
Wastes, Hazardous or Solid	N	Mitigation measures are a part of the proposed action. Detailed analysis is not required.
Water Quality, Drinking/Ground	N	Since there are no surface sources near the project and since there are no wells used for human drinking nor any well in the project area, there would be no affect to WQ from the proposed action.
Environmental Justice	N	No minority or low-income groups would be disproportionately affected by health or environmental effects.
Floodplains	N	Not present
Farmlands, Prime and Unique	N	Not present
Wetlands/Riparian Zones	N	Not present
<b>Noxious &amp; Invasive Non-native Species</b>	<b>Y</b>	<b>Potential for the spread of weeds though ground disturbing activities</b>
Wilderness/WSA	N	Not present. Closest wilderness area is more than 5 miles to the east of the well site.
Heritage Special Designations (Historic Trails, ACEC's designated for Cultural Resources, White River Archaeological District and Rock Animal Corral Archaeological Area)	N	Not present
Swamp Cedar and Blue Mass ACEC's (Schell)	N	Not present
Human Health and Safety	N	Not affected by proposed action
Wild and Scenic Rivers	N	Not Present

### 3.0 AFFECTED ENVIRONMENT

Special Status Animal Species, other than those listed or proposed by the FWS as Threatened or Endangered. Also, Rose Guano Cave ACEC (Schell)	N	Not present
Special Status Plant Species, other than those listed or proposed by the FWS as Threatened or Endangered. In addition, ACEC designated to protect special status plant species.	N	Not present
Fish and Wildlife	N	The nearest sage grouse lek is 11.5 miles from the proposed well site. The project area is not within any sage grouse habitat or other crucial wildlife habitat, such as mule deer, pronghorn antelope and elk. Not affected by proposed action
Wild Horses	N	Not affected by proposed action
Soils/Watershed	N	There would be some soil displacement at well site and soils taken out of production from new road building.
<b>VRM</b>	<b>Y</b>	<b>Analyzed in Potentially Affected Resources and Environmental Consequences sections</b>
Grazing Uses/Forage	N	The proposed action is within the Geyser Ranch allotment. The area of the proposed project had no forgeable plant species observed. Cattle do not use the area and the use of 24.4 acres for drilling activities will not hinder the grazing on this 245,000 acres allotment and does not require further analysis.
Land Uses	N	Not affected by proposed action
Transportation/Access	N	Access to the well pad has been permitted by NDOT and required ROW granted.
Recreation Uses including Back country Byways, Caves, Rockhounding Areas	N	Not present
Public Safety	N	Not affected by proposed action
Fire Management	N	Not affected by proposed action
Socioeconomics	N	Not present
Paleontological Resources	N	All known vertebrates, rare invertebrates and plants paleontological resource will be avoided. If any are discovered during the implementation

### 3.0 AFFECTED ENVIRONMENT

		of this project, all work in the vicinity will cease and the BLM Archaeologist/ Paleontologist will be contacted immediately.
Water Resources (Water Rights)	N	A temporary decline in the area's water table from additional pumping 12.6 acre-feet of water from existing wells and a new water well drilled onsite is not anticipated. Detailed analysis is not required.
Mineral Resources	N	Not affected by proposed action
<b>Vegetative Resources (Forest or Seed Products)</b>	<b>Y</b>	<b>Analyzed in Potentially Affected Resources and Environmental Consequences sections</b>

### 3.4 Visual Resource Management (VRM):

#### 3.4.1 Alternative A - Affected Environment

The project area is completely within the Class III view shed along Highway 93 approximately 62 miles south-southeast of Ely, Nevada. The well pad would be located approximately three miles from the highway downgrade in the valley floor. Currently, there are no structures within five miles of the proposed well pad, except for a pole line, a windmill, water wells and livestock troughs.

#### 3.4.2 Alternative A - Environmental Effects

Temporary dust from construction of the pad and roads may be seen from the highway as vehicles travel north and south. In addition, motorist traveling on Highway 93 may also see the drill rig and facilities on the pad. Adding a temporary new road on the valley floor may also affect the natural landscape and lines of sight until final reclamation is complete. Once drilling operations are complete, the rig and all facilities will be removed, unless the well is put into production.

Although exploration and production of oil are considered temporary ground disturbing activities, they may affect the visual resource in the area from six months to several years, unless an oil field is discovered and developed. The Eagle Springs oil field in Railroad Valley, Nevada has been producing oil for 56 years.

#### 3.4.3 No Action Alternative

The no action alternative would not allow the well to be drilled and 16,688 feet of access roads to be constructed and improved. No impacts would occur from the proposed action.

### 3.5 Noxious and Non-native Invasive Species:

#### 3.5.1 Alternative A - Affected Environment

No noxious or invasive weeds were detected along the proposed route and well pad. However, Russian thistle is growing in and around areas previously disturbed in

connection with the NDOT material pit located at the entry point from Highway 93, although it is not listed in the weeds management database. The following noxious weed species are found along side of Highway 93 near the access to the project area: spotted knapweed (*Centaurea stoebe*). See the Weed Risk Assessment (attachment 6) for a more detailed assessment of risks and stipulations.

### ***3.5.2 Alternative A - Environmental Effects***

An introduction of noxious or invasive weeds may be introduced into the area not previously infested by increased vehicle and foot traffic, and from gravel material used for construction. However, following the stipulations outlined in the WRA may greatly reduce the impacts from the proposed actions.

### ***3.5.3 No Action Alternative***

Noxious and invasive weeds would not be introduced into the valley floor by vehicles or by delivery of gravel material for road construction from this project.

## **3.6 Vegetative Resources**

### ***3.6.1 Alternative A - Affected Environment***

The project area is located in approximately 18,600 acres of an old Pleistocene lakebed, according to the Soil Mapping Unit (SMU). The dominate vegetation is four-wing salt brush, and rabbitbrush. No grasses or forbs were observed during the initial site visit.

### ***3.6.2 Alternative A - Environmental Effects***

A temporary loss of approximately 24.4 acres of vegetation would occur as a result the proposed action. If the well is plugged and abandon, the operator would be required to rehab the ground-disturbed areas by removing the gravel pad and seeding with native plants listed in the Surface Use Plan. If the well goes into production, partial reclamation of the pad and interim seeding would occur.

### ***3.6.3 No Action Alternative***

No loss of vegetative resources would occur from the proposed action.

## **4.0 CUMULATIVE IMPACTS**

### **4.1 Introduction:**

As required under NEPA and the regulations implementing NEPA, this section analyzes potential cumulative impacts from past, present, and reasonably foreseeable future actions combined with the Proposed Action within the area analyzed for impacts in Chapter 3 specific to the resources for which cumulative impacts may be anticipated. A cumulative impact is defined as “the impact which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor

but collectively significant actions taking place over a period of time” (40 Code of Federal Regulations 1508.7).

A comprehensive analysis of cumulative impacts are analyzed in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) on p.4.28 to 4.36. The reasonably foreseeable development scenarios anticipate 8,400 acres of disturbance and as many as 448 wells drilled for oil and gas exploration and development, (p. 4.36-1). The proposed action is 24.4 acres of surface disturbance, well within the scope of the document. This site specific EA tiers to, and incorporates by reference, the Ely Proposed Resource Management Plan/Final Environmental Impact Statement.

## **4.2 Cumulative Effects Conclusion:**

### ***4.2.1 Visual Resource Management***

The project area is completely within a Class III view shed along Highway 93 and does not warrant any mitigation measures other than what are in the proposed action and Best Management Practices. The proposed action is considered temporary and the natural forms, lines, colors and textures will return over time.

### ***4.2.2 Noxious Weeds and Invasive Non-native Species***

The project areas are currently considered weed free. Any new infestations, if they occur, would have cumulative effects on the nearby native plant community. By implementing the Best Management Practices from the Ely District RMP and identified in the Weed Risk Assessment, the proposed action, in combination with other past, present, and reasonably foreseeable future actions, is not expected to result in new noxious weed infestations and no cumulative effects would occur.

### ***4.2.3 Vegetative Resources***

Even by implementing the Best Management Practices from the Ely District RMP and following the Conditions of Approval, the area would lose over 24 acres of vegetative resource due to the proposed action. It may take 20 years before the vegetation would return to its original status along the roads and well pad, due to the alkaline composition of the lakebed surface soils. The dominate vegetation is four-wing salt brush, and rabbit brush. No grasses or forbs were observed on the field trip to the location. The vegetation in the project area is considered poor for grazing purposes. The vegetative loss from the proposed action would be considered insignificant when describing the more than 18, 600 acres within the ancient lakebed, unless future oil development occurs in this immediate area.

## **4.3 Proposed Mitigation and Monitoring:**

### ***4.3.1 Proposed Mitigation***

The preventative measures and procedures of the proposed action and the attached Conditions of Approval (Attachment 2) are adequate to mitigate adverse effects to the

human environment. No additional mitigating measures are proposed as a result of the impact analysis.

#### **4.3.2 Proposed Monitoring**

Appropriate monitoring has been included as part of the Proposed Action. No additional monitoring is proposed as a result of the impact analysis.

### **5.0 CONSULTATION AND COORDINATION**

#### **5.1 Introduction:**

The issue identification section of Chapter 1 provides the rationale for issues that were considered but not analyzed further and identifies those issues analyzed in detail in Chapter 3. The issues were identified through the public and agency involvement process described in sections 5.2 and 5.3 below.

#### **5.2 Persons, Groups and Agencies Consulted:**

<b>Name</b>	<b>Purpose &amp; Authority for Consultation or Coordination</b>	<b>Findings and Conclusions</b>
Nevada State Historic Preservation Office (SHPO)	Consultation for undertakings as required by the National Historic Preservation Act (16 USC 1531)	The cultural survey report was sent to SHPO with a determination of no adverse effect. No response was received within 30 days from the submission of any of the reports. Consultation is therefore considered to be closed.
Nevada Division of Water Resources	Water rights for Lake Valley	Any water used on the described lands should be provided under a permit issued by the State Engineer's Office.
Nevada Department of Transportation	ROW access	A permit was issued to egress Highway 93 from the proposed gravel pit and to access the project area by way of crossing part of NDOT's gravel pit ROW

#### **5.3 Summary of Public Participation:**

There is general public interest in this type of potential development. The APD was posted at the Nevada BLM State Office on receipt. A request for comments was sent to the Nevada State Clearinghouse on December 29, 2010. Notification of the availability of the Notice of Staking was posted on the Ely District website

([http://www.blm.gov/nv/st/en/fo/ely\\_field\\_office/blm\\_information/nepa.2.html](http://www.blm.gov/nv/st/en/fo/ely_field_office/blm_information/nepa.2.html))

on January 4, 2010. Letters requesting comments for inclusion in the EA were mailed to 82 interested parties on January 12, 2010. The preliminary EA was posted on the Ely BLM website for over 30 days for the public to review.

#### 5.4 List of Preparers / Reviewers:

##### 5.4.1 BLM

<b>Name</b>	<b>Title</b>	<b>Responsible for the Following Section(s) of this Document</b>
Dave Davis	Geologist	Author, Project Lead, Minerals
Mindy Seal	Range & Weeds Specialist	Invasive, Non-invasive Species
Chelsy Simerson	Range Specialist	Vegetation, seed mix list, grazing allotment
Tom Maeder	Wildlife Biologist	Wildlife, Migratory birds, Special Status Species
Zach Peterson	Forester	Air Quality, NEPA requirements
Dave Jacobson	Wilderness	Wilderness values, ACEC/Special Designations
Ben Noyes	Wild Horse & Burros Specialist	Wild Horse & Burros
Melanie Peterson	Hazardous Material Coordinator	Wastes, Hazardous & Solid
Shawn Gibson	Archeologist	Archeological/Historic Paleontological
Lorie Leshner	Archeology Technician	Cultural Needs Assessment & review
Mark D'Aversa	Hydrologist	Water Quality, Flood plains, & soils
Liz Townley	Recreation Specialist	VRM
Elvis Wall	Tribal Coordinator	Native American Religious Concerns

## 6.0 ACRONYMS AND REFERENCES

### 6.1 Acronyms

**ACEC**- Areas of Critical Environmental Concern  
**APD**- Application Permit to Drill  
**BLM**-Bureau of Land Management  
**CFR**-Code of Federal Regulations  
**CX**- categorical exclusion  
**DR**-Decision Record  
**EA**-Environmental Assessment  
**EIS**-Environmental Impact Statement  
**FLPMA**-Federal Land Policy and Management Act  
**FONSI**-Finding of No Significant Impact  
**ID**-Interdisciplinary  
**IM**-Instructional Memorandum  
**NDOT**- Nevada Department of Transportation  
**NDOW**- Nevada Department of Wildlife  
**NEPA**-National Environmental Policy Act  
**NOS**- Notice of Staking  
**RMP**-Resource Management Plan  
**ROW**- Right Of Way  
**SHPO**- Nevada State Historic Preservation Office  
**SN**- Sundry Notice  
**US**- United States  
**WRA**- Weed Risk Assessment

### 6.2 References

BLM. 2007. *Ely Proposed Resource Management Plan/Final Environmental Impact Statement* November 2007. USDI – BLM. Ely District Office.

BLM. 2008. *Ely District Record of Decision and Approved Resource Management Plan* August 2008. USDI – BLM. Ely District Office.

BLM 9113 Manual. (BLM 1985) and the *Surface Operating Standards for Oil and Gas Exploration and Development*

CFR 2007. Code of Federal Regulations, Title 43, Part 1,000 to End, Revised as of October 1, 2007.

Executive Order 13212: 66 FR 28357 (22 May 2001), section 2, Actions To Expedite Energy-Related Projects.

FLPMA 1976. Federal Land Policy Management Act of 1976.

Gold Book 2007. The Gold Book- Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, Fourth Edition-Revised 2007.



Lincoln County Public Land Management and Use Plan 1996, Policy 2, page 13.

NAC 534. Nevada Administrative Code, Underground Water and Wells, Chapter 534, revised December, 2006.

NEPA 1970. National Environmental Policy Act of 1970.



## **Attachment 1**

### **Standard Operating Procedures for Oil and Gas Operations Ely District, BLM**

1. As well as the following site specific conditions of approval listed below, surface operations will follow the Surface Operating Standards and Guidelines for Oil and Gas Exploration, the Gold Book, and the Resource Program Best Management Practices contained in Appendix A, Section 1, of the Ely District Record of Decision and Approved Resource Management Plan.
2. During pad construction, all available topsoil will be salvaged and stockpiled separately from any other material. The topsoil will be seeded immediately with the attached interim seed mix in order to stabilize the soil and help prevent the establishment of invasive and non-native weeds. An additional interim seeding may be required.
3. Final pad reclamation will consist of recontouring, ripping, re-spreading the topsoil, reseeding with the attached final seed mixture, and scarifying. Seeding is recommended between October 1 and March 15. The performance goal for successful revegetation is that the reclaimed area will have 100% of the perennial canopy cover of the existing adjacent plant cover, although it is not anticipated that this will be achieved during the current drought period. The site will be evaluated by the Ely BLM for vegetative progress after at least one full growing season. If not successful, the BLM reclamation specialist will review the reclamation procedures with the operator to decide on the best course of action.
4. Access road construction will include salvaging all available topsoil in a windrow along the edge of the road and immediately seeding it with the same interim seed mixture as used for the pad. Final reclamation will be similar to that for the location pad: regrading, ripping the road surface, recovering with the salvaged topsoil, final seeding. All of the newly constructed access road will be reclaimed.
5. Gravel used for pad or access road construction may be placed only after the underlying topsoil has been salvaged. Remove gravel prior to reclamation. Gravel left behind will be ripped so that is mixed with the underlying material prior to being covered with the stockpiled topsoil.
6. Off-lease new road construction, widening of existing access roads or other ground disturbance is not authorized without an approved Right of Way.
7. Hydrocarbons would not be allowed to accumulate in the reserve pit.

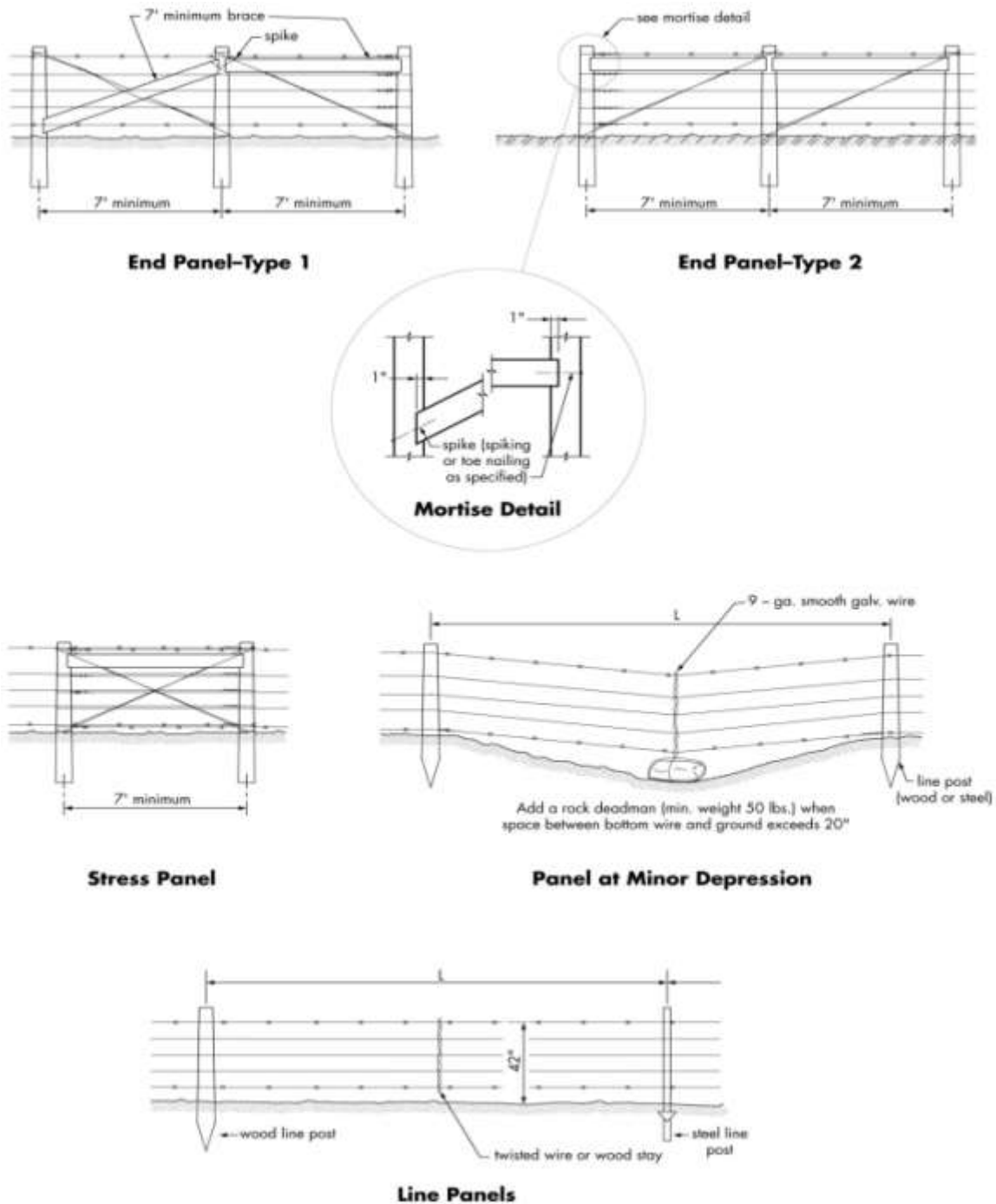
## **ATTACHMENTS**

8. Location sites shall be maintained in a sanitary condition at all times; litter shall be disposed of promptly at an authorized solid waste disposal site. "Litter" means all discarded matter including but not limited to trash, garbage, refuse, ashes and equipment. Site must be maintained and left in a clean and safe condition. Burning would not be allowed on the well site.
9. The permittee is responsible for clean-up and assumes liability for any and all releases of hazardous substances and or oil disposed on public land as defined in the National Oil and Hazardous Substances Contingency Plan (40 CFR 300). Proponent will immediately notify the BLM Authorized Officer and the National Response Center at 687-9485 or 888 331-6337 (NDEP) on all spills/releases in which the reportable quantity for the particular compound is exceeded - 40 CFR part 302.
10. The operator will be responsible for complete control of any noxious weeds that become established within the project area during the life of this project through final reclamation. This would include the well location, access road, and gravel source. Measures for the prevention and control of noxious and invasive weeds are contained in the attached "Risk Assessment for Noxious & Invasive Weeds".
11. Operations commencing during the period March 15 to June 15 will be subject to the provisions of the BLM policy management actions for the conservation of migratory birds. A qualified wildlife biologist will survey the area for nesting migratory birds. If nesting birds are found, then appropriate mitigation measures will be developed.
12. A waiver must be obtained from the Nevada State Engineer's Office for use of water from a temporary on-site well or any existing water source not previously authorized for use for oil and gas exploration at this well location.
13. Should the oil well be put into production, as much of the well location, access road not needed for production will be immediately reclaimed using the final reclamation procedures, and seed mix.
14. The Authorized Officer will be notified within 5 days of completion of reclamation work so that timely compliance inspections can be completed.
15. If archeological resources or historic properties are discovered that could be damaged by project-related activities, all construction activities in the immediate vicinity will cease. The Ely BLM Authorized Officer will be immediately contacted to arrange an onsite inspection to determine measures that will be implemented to prevent unnecessary damage to the resource.

## **ATTACHMENTS**

## Attachment 2

### Recommended construction standards for enclosure fences in livestock areas



### Attachment 3

**Interim Stabilization Seed Mix**  
Cabot Oil & Gas - Lake Valley 10-29  
For Topsoil Stockpiles and Roadside Ditches

<u>Species</u>	<u>Seeds/Lb</u>	<u>Seed rate</u> lbs/ac	<u>Seeds/sq ft</u>
<i>Elymus macrourus</i> (Thickspike wheatgrass)	130,000	3.0	9.0
<i>Pascopyrum smithii</i> (Western wheatgrass)	130,000	3.0	9.0
<i>Oryzopsis hymenoides</i> Indian ricegrass	161,920	1.0	3.7
<i>Poa segunda</i> Sandberg bluegrass	1,046,960	2	48.1
<i>Eriogonum umbellatum</i> Sulfur buckwheat	140,500	1	3.2
<i>Lolium multifolium</i> Annual ryegrass	227,000	5	26.1
<hr/>			
<b>Total</b>		<b>15 lbs/ac</b>	<b>99 seeds/sq ft.</b>

Substitutions can be made depending on seed price and availability. Contact the BLM if substitutions are required.

\* Seed rate - Adjust listed pounds/acre for pure live seed.

Pure Live Seed pounds/acre =  $\frac{\text{Seed rate (listed above lbs/acre)}}{(\% \text{ germination}) (\% \text{ purity})}$

## Attachment 4

### Final Seed Mixture Cabot Oil & Gas - Lake Valley 10-29 Recommended Final Seed List

<u>Species</u>	<u>Seeds/Lb</u>	<u>Seed rate</u> lbs/ac	<u>Seeds/sq ft</u>
<i>Elymus macrourus</i> (Thickspike wheatgrass)	130,000	3.0	9.0
<i>Pascopyrum smithii</i> (Western wheatgrass)	130,000	3.0	9.0
<i>Poa segunda</i> Sandberg bluegrass	1,046,960	2	48.1
<i>Sporobolus airoides</i> (Alkali sacatan)	1,758,000	0.2	8
<i>Oryzopsis hymenoides</i> (Indian ricegrass)	141,000	2.0	6
<i>Atriplex canescens</i> (Four wing saltbrush)	52,000	2.0	2
<i>Atriplex confertifolia</i> (Shadscale)	64,900	2.0	3
<i>Atriplex garnderi</i> Gardner saltbrush	111,450	0.5	1.3
<i>Eriogonum umbellatum</i> Sulfur buckwheat	140,500	1	3.2
<i>Lolium multifolium</i> Annual ryegrass	227,000	5	26.1
<b>Total</b>		<b>18.7</b>	<b>115.7</b>

Seeds should be planted between October 1 and March 15.

Substitutions can be made depending on seed price and availability. Contact the BLM if substitutions are required.

\* Seed rate - Adjust listed pounds/acre for pure live seed.

Pure Live Seed pounds/acre = Seed rate (listed above lbs/acre)

## ATTACHMENTS

(% germination) (% purity)

**Attachment 5****Noxious and Invasive Weed Lists****Federal Noxious Weed List****as of June 30, 2006**[http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/weeds/downloads/weedlist2006.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/downloads/weedlist2006.pdf)

Scientific Name		Common Name	
Aquatic/Wetland:			
Azolla pinnata		mosquito fern, water velvet	
Caulerpa taxifolia		Mediterranean strain killer algae	
Eichornia azurea		anchored or rooted waterhyacinth	
Hydrilla verticillata		hydrilla	
Hygrophila polysperma		Miramar weed	
Ipomoea aquatica		water-spinach, swamp morning-glory	
Lagarosiphon major		African elodea, oxygen weed	
Limnophila sessiliflora		ambulia	
Melaleuca quinquenervia		broadleaf paper bark tree	
Monochoria hastate		arrowleaf falsepickerelweed	
Monochoria vaginalis		heartshape false pickerelweed	
Ottelia alismoides		ducklettuce	
Sagittaria sagittifolia		arrowhead	
Salvinia auriculata		giant salvinia	
Salvinia biloba		giant salvinia	
Salvinia herzogii		giant salvinia	
Salvinia molesta		giant salvinia	
Solanum tampicense		wetland nightshade	
Sparganium erectum		exotic bur-reed	
Parasitic:			
Aeginetia spp.		aeginetia	
Alectra spp.		alectra	
Cuscuta spp.		dodders, other than following species:	
americana	decipiens	harperi	polygonorum
applanata	dentatasquamata	howelliana	rostrata
approximata	denticulata	indecora	runyonii
attenuata	epilinum	jepsonii	salina
boldinghii	epithymum	leptantha	sandwichiana
brachycalyx	erosa	mitriformis	squamata
californica	europaea	nevadensis	suaveolens
campestris	exalta	obtusiflora	suksdorfii



<i>cassytoides</i> <i>ceanothii</i> <i>cephalanthii</i> <i>compacta</i> <i>corylii</i> <i>cuspidata</i>	<i>fasciculata</i> <i>glabrior</i> <i>globulosa</i> <i>glomerata</i> <i>gronovii</i>	<i>occidentalis</i> <i>odontolepis</i> <i>pentagona</i> <i>planiflora</i> <i>plattensis</i>	<i>tuberculata</i> <i>umbellata</i> <i>umbrosa</i> <i>vetchii</i> <i>warneri</i>
<i>Orobanche</i> spp.	broomrapes, other than the following species:		
<i>bulbosa</i> <i>californica</i> <i>cooperi</i> <i>corymbosa</i>	<i>dugesii</i> <i>fasciculata</i> <i>ludoviciana</i>	<i>multicaulis</i> <i>parishii</i> <i>pinorum</i>	<i>uniflora</i> <i>valida</i> <i>vallicola</i>
<i>Striga</i> spp.		witchweeds	
<b>Terrestrial:</b>			
<i>Ageratina adenophora</i>		crofton weed	
<i>Alternanthera sessilis</i>		sessile joyweed	
<i>Asphodelus fistulosus</i>		onionweed	
<i>Avena sterilis</i>		animated oat, wild oat	
<i>Carthamus oxyacantha</i>		wild safflower	
<i>Chrysopogon aciculatus</i>		pilipiliula	
<i>Commelina benghalensis</i>		Benghal dayflower	
<i>Crupina vulgaris</i>		common crupina	
<i>Digitaria scalarum</i>		African couchgrass, fingergrass	
<i>Digitaria velutina</i>		velvet fingergrass, annual conchgrass	
<i>Drymaria arenarioides</i>		lightning weed	
<i>Emex australis</i>		three-cornered jack	
<i>Emex spinosa</i>		devil's thorn	
<i>Galega officinalis</i>		goatsrue	
<i>Heracleum mantegazzianum</i>		giant hogweed	
<i>Homeria</i> spp.		Cape tulip	
<i>Imperata brasiliensis</i>		Brazilian satintail	
<i>Imperata cylindrica</i>		cogongrass	
<i>Ischaemum rugosum</i>		muraingrass	
<i>Leptochloa chinensis</i>		Asian sprangletop	
<i>Lycium ferocissimum</i>		African boxthorn	
<i>Melastoma malabathricum</i>		Malabar melastome	
<i>Mikania cordata</i>		mile-a-minute	
<i>Mikania micrantha</i>		bittervine	
<i>Mimosa invisa</i>		giant sensitive plant	
<i>Mimosa pigra</i>		catclaw mimosa	
<i>Nassella trichotoma</i>		serrated tussock	
<i>Opuntia aurantiaca</i>		jointed prickly pear	

## ATTACHMENTS

<i>Oryza longistaminata</i>	red rice
<i>Oryza punctata</i>	red rice
<i>Oryza rufipogon</i>	red rice
<i>Paspalum scrobiculatum</i>	Kodo-millet
<i>Pennisetum clandestinum</i>	kikuyugrass
<i>Pennisetum macrourum</i>	African feathergrass
<i>Pennisetum pedicellatum</i>	kyasumagrass
<i>Pennisetum polystachion</i>	missiongrass, thin napiergrass
<i>Prosopis alpataco</i>	mesquite
<i>Prosopis argentina</i>	mesquite
<i>Prosopis articulate</i>	velvet mesquite
<i>Prosopis burkartii</i>	mesquite
<i>Prosopis caldenia</i>	mesquite
<i>Prosopis calingastana</i>	mesquite
<i>Prosopis campestris</i>	cusqui mesquite
<i>Prosopis castellanosii</i>	mesquite
<i>Prosopis denudans</i>	mesquite
<i>Prosopis elata</i>	mesquite
<i>Prosopis farcta</i>	Syrian mesquite
<i>Prosopis ferox</i>	mesquite
<i>Prosopis fiebrigii</i>	mesquite
<i>Prosopis hassleri</i>	mesquite
<i>Prosopis humilis</i>	mesquite
<i>Prosopis kuntzei</i>	mesquite
<i>Prosopis pallida</i>	kiawe mesquite
<i>Prosopis palmeri</i>	mesquite
<i>Prosopis reptans</i>	tornillo mesquite
<i>Prosopis rojasiana</i>	mesquite
<i>Prosopis ruizlealii</i>	mesquite
<i>Prosopis ruscifolia</i>	mesquite
<i>Prosopis sericantha</i>	mesquite
<i>Prosopis strombulifera</i>	Argentine screwbean
<i>Prosopis torquata</i>	mesquite
<i>Rottboellia cochinchinensis</i>	itchgrass
<i>Rubus fruticosus</i>	wild blackberry
<i>Rubus moluccanus</i>	wild raspberry
<i>Saccharum spontaneum</i>	wild sugarcane
<i>Salsola vermiculata</i>	wormleaf salsola

## ATTACHMENTS

<i>Senecio inaequidens</i>	South African ragwort
<i>Senecio madagascariensis</i>	Madagascar ragwort
<i>Setaria pallide-fusca</i>	cattail grass
<i>Solanum torvum</i>	turkeyberry
<i>Solanum viarum</i>	tropical soda apple
<i>Spermacoce alata</i>	winged false buttonweed
<i>Tridax procumbens</i>	coat buttons
<i>Urochloa panicoides</i>	liverseed grass

## Nevada Noxious Weed List

[http://agri.nv.gov/nwac/PLANT\\_NoXWeedList.htm](http://agri.nv.gov/nwac/PLANT_NoXWeedList.htm)

Scientific Name	Common Name
<b>Category A Weeds:</b>	
<i>Alhagi camelorum</i>	Camelthorn
<i>Anthemis cotula</i>	Mayweed chamomile
<i>Arundo donax</i>	Giant Reed
<i>Centaurea calcitrapa</i>	Purple Star thistle
<i>Centaurea iberica</i>	Iberian Star thistle
<i>Centaurea masculosa</i>	Spotted Knapweed
<i>Centaurea melitensis</i>	Malta Star thistle
<i>Centaurea solstitialis</i>	Yellow Starthistle
<i>Centaurea virgata</i> Lam. Var. <i>squarrose</i>	Squarrose star thistle
<i>Chondrilla juncea</i>	Rush skeletonweed
<i>Crupina vulgaris</i>	Common crupina
<i>Cynoglossum officinale</i>	Houndstongue
<i>Euphorbia esula</i>	Leafy spurge
<i>Galega officinalis</i>	Goats rue
<i>Hydrilla verticillata</i>	Hydrilla
<i>Hypericum perforatum</i>	Klamath weed
<i>Isatis tinctoria</i>	Dyer's woad
<i>Linaria dalmatica</i>	Dalmation Toadflax
<i>Linaria vulgaris</i>	Yellow Toadflax
<i>Lythrum salicaria</i> , <i>L. virgatum</i> & cultivars	Purple loosestrife
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil
<i>Peganum harmala</i>	African Rue
<i>Potentilla recta</i>	Sulfur cinquefoil
<i>Rorippa austriaca</i>	Austrian fieldcress

<i>Salvia aethiopis</i>	Mediterranean sage
<i>Salvinia molesta</i>	Giant Salvinia
<i>Sonchus arvensis</i>	Sow Thistle
<i>Sphaerophysa salsula</i> / <i>Swainsona salsula</i>	Austrian peaweed
<i>Zygophyllum fabago</i>	Syrian Bean Caper

**Category B Weeds:**

<i>Acroptilon repens</i>	Russian Knapweed
<i>Brassica tournefortii</i>	Sahara Mustard
<i>Carduus nutans</i>	Musk Thistle
<i>Centaurea diffusa</i>	Diffuse Knapweed
<i>Onopordum acanthium</i>	Scotch Thistle
<i>Solanum carolinense</i>	Carolina Horse-nettle
<i>Solanum elaeagnifolium</i>	White Horse-nettle
<i>Taeniatherum caput-medusae</i>	Medusahead

**Category C Weeds:**

<i>Cardaria draba</i>	Hoary cress
<i>Cicuta maculata</i>	Water Hemlock
<i>Cirsium arvense</i>	Canada Thistle
<i>Conium maculatum</i>	Poison Hemlock
<i>Hyoscyamus niger</i>	Black henbane
<i>Lepidium latifolium</i>	Perennial pepperweed
<i>Pennisetum setaceum</i>	Green Fountain grass
<i>Sorghum halepense</i>	Johnson grass
<i>Tamarix spp</i>	Salt cedar (tamarisk)
<i>Tribulus terrestris</i>	Puncture vine

## BLM National List of Invasive Weed Species of Concern

[http://www.blm.gov/co/st/en/BLM\\_Programs/botany/invasiweed.html](http://www.blm.gov/co/st/en/BLM_Programs/botany/invasiweed.html)

Scientific Name	Common Name
<b>Grasses</b>	
<i>Aegilops cylindrica</i>	jointed goatgrass
<i>Ammophila arenaria</i>	European beachgrass
<i>Arundo donax</i>	giant reed
<i>Bromus diandrus</i>	ripgut brome
<i>Bromus japonicus</i>	Japanese brome

### ATTACHMENTS

Bromus rubens	red brome
Bromus tectorum	downy brome
Cenchrus longispinus	longspine sandbur
Cortaderia jubata	Andean pampas grass
Cortaderia selloana	pampas grass
Cynodon dactylon	bermudagrass
Ehrharta calycina	veldt grass
Elytrigia repens	quackgrass
Eragrostis lehmanniana	Lehmann lovegrass
Nardus stricta	matgrass
Panicum miliaceum	wild proso millet
Pennisetum setaceum	crimson fountain grass
Schismus arabicus	schismus
Schismus barbatus	mediterranean grass
Sorghum halepense	johnsongrass
Taeniatherum caput-medusae	medusa-head
<b>Forbs</b>	
Acroptilon repens	Russian knapweed
Anthemis arvensis	scentless chamomile
Anthemis cotula	mayweed chamomile
Arctium minus	common burdock
Bassia hyssopifolia	bassia Basellaceae
Brassica nigra	black mustard
Brassica tournefortii	wild turnip
Caesalpinia gilliesii	Mexican bird-of-paradise
Cardaria chalepensis	lens-podded whitetop
Cardaria draba	hoary cress
Cardaria pubescens	hairy whitetop
Carduus acanthoides	plumeless thistle
Carduus nutans	musk thistle
Carduus pycnocephalus	Italian thistle
Carduus teniflorus	slender-flowered thistle
Carpobrotus edulis	hottentot fig
Carpobrotus chilensis	sea iceplant
Carthamus lantus	distaff thistle
Carum carvi	common caraway
Centaurea calcitrapa	purple starthistle
Centaurea cyanus	cornflower

## ATTACHMENTS

<i>Centaurea diffusa</i>	diffuse knapweed
<i>Centaurea iberica</i>	Iberian starthistle
<i>Centaurea jacea</i>	brown knapweed
<i>Centaurea macrocephala</i>	bighead knapweed
<i>Centaurea maculosa</i>	spotted knapweed
<i>Centaurea melitenensis</i>	malta starthistle
<i>Centaurea montana</i>	mountain cornflower
<i>Centaurea nigra</i>	black knapweed
<i>Centaurea nigrescens</i>	Vochin knapweed
<i>Centaurea pratensis</i>	meadow knapweed
<i>Centaurea squarrosa</i>	squarrose knapweed
<i>Centaurea solstitialis</i>	yellow starthistle
<i>Centaurea trichocephala</i>	feather-headed knapweed
<i>Chondrilla juncea</i>	rush skeletonweed
<i>Chrysanthemum leucanthemum</i>	ox-eye daisy
<i>Cichorium intybus</i>	chicory
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium vulgare</i>	bull thistle
<i>Clematis orientalis</i>	Chinese clematis
<i>Conium maculatum</i>	poison hemlock
<i>Convolvulus arvensis</i>	field bindweed
<i>Crepis setosa</i>	bristly hawkweed
<i>Crupina vulgaris</i>	common crupina
<i>Cynara cardunculus</i>	artichoke thistle
<i>Cynoglossum officinale</i>	houndstongue
<i>Digitalis purpurea</i>	foxglove
<i>Dipsacus fullonum</i>	common teasel
<i>Echium vulgare</i>	blueweed
<i>Egeria densa</i>	Brazilian waterweed
<i>Eichhornia crassipes</i>	water hyacinth
<i>Erechtites glomerata</i>	Australian fireweed
<i>Euphorbia cyparissias</i>	cypress spurge
<i>Euphorbia esula</i>	leafy spurge
<i>Euphorbia myrsinites</i>	myrtle spurge
<i>Foeniculum vulgare</i>	fennel
<i>Galega officinalis</i>	goats rue
<i>Gypsophila paniculata</i>	babys breath
<i>Halogeton glomeratus</i>	halogeton

## ATTACHMENTS

<i>Hesperis matronalis</i>	dames's rocket
<i>Hieracium aurantiacum</i>	orange hawkweed
<i>Hieracium pilosella</i>	mouseear hawkweed
<i>Hieracium pratense</i>	yellow hawkweed
<i>Hydrilla verticillata</i>	hydrilla
<i>Hyoscyamus niger</i>	black henbane
<i>Hypericum perforatum</i>	common St. Johnswort
<i>Hypochaeris radicata</i>	common catsear
<i>Isatis tinctoria</i>	dyer's woad
<i>Knautia arvensis</i>	blue buttons
<i>Lathyrus latifolius</i>	everlasting peavine
<i>Lepidium latifolium</i>	perennial pepperweed
<i>Linaria genistifolia</i> spp. <i>dalmatica</i>	dalmation toadflax
<i>Linaria vulgaris</i>	yellow toadflax
<i>Lysimachia vulgaris</i>	garden loosestrife
<i>Lythrum salicaria</i>	purple loosestrife
<i>Lythrum virgatum</i>	wand loosestrife
<i>Madia sativa</i>	Chilean tarweed
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil
<i>Onopordum acanthium</i>	Scotch thistle
<i>Onopordum taricum</i>	Scotch thistle
<i>Peganum harmala</i>	African rue
<i>Potentilla recta</i>	sulphur cinquefoil
<i>Salvia aethiopsis</i>	Mediterranean sage
<i>Saponaria officinalis</i>	bouncing bet
<i>Senecio jacobaea</i>	tansy ragwort
<i>Senecio mikanioides</i>	German ivy
<i>Solanum dulcamara</i>	bitter nightshade
<i>Sonchus arvensis</i>	perennial sowthistle
<i>Sphaerophysa salsula</i>	swainsonpea
<i>Tanacetum vulgare</i>	common tansy
<i>Zygophyllum fabago</i>	Syrian bean caper
<b>Shrubs and Trees</b>	
<i>Ailanthus altissima</i>	tree-of-heaven
<i>Alhagi pseudalhagi</i>	camelthorn
<i>Cytisus junceum</i>	Spanish broom
<i>Cytisus monspessulanas</i>	French broom
<i>Cytisus scoparius</i>	Scotch broom

## ATTACHMENTS

Cytisus striatus	Portugese broom
Elaeagnus angustifolia	Russian olive
Ficus carica	edible fig
Lespedeza cuneata	Himalayan bush clover
Retama monosperma	bridal veil broom
Rubus discolor	Himalaya blackberry
Schinus terebrinthifolius	Brazillian pepper
Tamarix aphylla	athel
Tamarix chinensis	tamarisk
Tamarix gallica	French tamarisk
Tamarix parviflora	small flower tamerisk
Tamarix pentanda	tamarisk
Tamarix ramosissima	salt cedar
Ulex europaeus	gorse
Ulmus pumila	Siberian elm

## ATTACHMENTS



## Attachment 6

### **RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS**

#### Lake Valley 10-29 Wildcat Oil Well

#### Lincoln County, Nevada

On December 30, 2009, a Noxious & Invasive Weed Risk Assessment was completed for the Lake Valley Wildcat Oil Well.

Proposed Action: Cabot Oil proposes to directionally drill a wildcat oil well in Lake Valley sometime in 2010 with the intent to locate and produce oil. Cabot Oil & Gas currently own the lease parcels within the scope of this project. An access road and drill pad would have to be constructed for this project. Approximately 1.5 miles of new road would be constructed under the proposed action and 1.5 miles of an existing two-track would be upgraded to accommodate the drill rig and equipment.

An alternative access route will be considered that will include upgrading 7.5 miles of an existing two-track road and the new construction of 1.9 miles of new road leading to the proposed well pad. The pad will be designed to accommodate the drill rig and equipment, and conform to the contour of the land to minimize cut and fill.

Project Location (see map): T8N, R66E, Sec 29 NWNW

Need for Proposal: To explore oil & gas resources within Nevada to meet the ever increasing demand for energy in the United States.

No weed surveys in the field were completed for this project. Instead, the Ely District weed inventory data was consulted. There are currently no mapped weed infestations within or near the proposed well site. Both the proposed road and alternative road have spotted knapweed (*Centaurea stoebe*) infestations where they connect with existing road (see-attached map) as well as infestations of non-native perennial grasses. The following species are found along roads or drainages leading to the project area:

<i>Acrotilon repens</i>	Russian knapweed
<i>Centaurea stoebe</i>	Spotted knapweed

The project area was last inventoried for noxious and invasive weeds in 2001. While not officially documented the following non-native invasive weeds probably occur in or around the area: cheatgrass (*Bromus tectorum*), bur buttercup ([\*Ceratocephala testiculata\*](#)), field bindweed (*Convolvulus arvensis*), halogeton (*Halogeton glomeratus*), horehound (*Marrubium vulgare*), and Russian thistle (*Salsola kali*).

## ATTACHMENTS

**Factor 1 assesses the likelihood of noxious/invasive weed species spreading to the project area.**

None (0)	Noxious/invasive weed species are not located within or adjacent to the project area. Project activity is not likely to result in the establishment of noxious/invasive weed species in the project area.
Low (1-3)	Noxious/invasive weed species are present in the areas adjacent to but not within the project area. Project activities can be implemented and prevent the spread of noxious/invasive weeds into the project area.
Moderate (4-7)	Noxious/invasive weed species located immediately adjacent to or within the project area. Project activities are likely to result in some areas becoming infested with noxious/invasive weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious/invasive weeds within the project area.
High (8-10)	Heavy infestations of noxious/invasive weeds are located within or immediately adjacent to the project area. Project activities, even with preventative management actions, are likely to result in the establishment and spread of noxious/invasive weeds on disturbed sites throughout much of the project area.

For this project, the factor rates as Moderate (7) at the present time. With the amount of ground disturbance associated with this type of facility and the type of weed species in the area it is probable that the project activities will result in new weed infestations to the area.

**Factor 2 assesses the consequences of noxious/invasive weed establishment in the project area.**

Low to Nonexistent (1-3)	None. No cumulative effects expected.
Moderate (4-7)	Possible adverse effects on site and possible expansion of infestation within the project area. Cumulative effects on native plant communities are likely but limited.
High (8-10)	Obvious adverse effects within the project area and probable expansion of noxious/invasive weed infestations to areas outside the project area. Adverse cumulative effects on native plant communities are probable.

This project rates as High (8) at the present time. If new infestations establish within the project area this could adversely impact those native plant communities since the well site area is currently considered to be weed-free. Also, an increase of cheatgrass could alter the fire regime in the area.

**The Risk Rating is obtained by multiplying Factor 1 by Factor 2.**

None (0)	Proceed as planned.
Low (1-10)	Proceed as planned. Initiate control treatment on noxious/invasive weed populations that get established in the area.
Moderate (11-49)	Develop preventative management measures for the proposed project to reduce the risk of introduction of spread of noxious/invasive weeds into the area. Preventative management measures should include modifying the project to include seeding the area to occupy disturbed sites with desirable species. Monitor the area for at least 3 consecutive years and provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.
High (50-100)	Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed site and controlling existing infestations of noxious/invasive weeds prior to project activity. Project must provide at least 5 consecutive years of monitoring. Projects must also provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.

For this project, the Risk Rating is Moderate (56). This indicates that the project can proceed as planned as long as the following measures are followed:

## ATTACHMENTS

- Prior to the entry of vehicles and equipment to a project area, areas of concern will be identified and flagged in the field by a weed scientist or qualified biologist. The flagging will alert personnel or participants to avoid areas of concern. These sites will be recorded using global positioning systems or other Ely District Office approved equipment and provided to the District Office Weed Coordinator or designated contact person.
- Prior to entering public lands, the contractor, operator, or permit holder will provide information and training regarding noxious weed management and identification to all personnel who will be affiliated with the implementation and maintenance phases of the project. The importance of preventing the spread of weeds to uninfested areas and importance of controlling existing populations of weeds will be explained.
- To eliminate the transport of vehicle-borne weed seeds, roots, or rhizomes all vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. All such vehicles and equipment will be cleaned with power or high-pressure equipment prior to entering or leaving the work site or project area. Cleaning efforts will concentrate on tracks, feet and tires, and on the undercarriage. Special emphasis will be applied to axels, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the District Office Weed Coordinator or designated contact person.
- Removal and disturbance of vegetation would be kept to a minimum through construction site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.)
- To eliminate the introduction of noxious weed seeds, roots, or rhizomes all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for reclamation or stabilization activities, feed, bedding will be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely District Office.
- Reclamation would normally be accomplished with native seeds only. These would be representative of the indigenous species present in the adjacent habitat. Rationale for potential seeding with selected nonnative species would be documented. Possible exceptions would include use of non-native species for a temporary cover crop to out-compete weeds. Where large acreages are burned by fires and seeding is required for erosion control, all native species could be cost prohibitive and/or unavailable. In all cases, seed mixes would be approved by the BLM Authorized Officer prior to planting.
- To eliminate the introduction of noxious weed seeds, roots, or rhizomes all source sites such as borrow pits, fill sources, or gravel pits used to supply inorganic materials used for construction, maintenance, or reclamation will be inspected and found to be free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely District Office. Inspections will be conducted by a weed scientist or qualified biologist.
- Noxious and invasive weed monitoring will be conducted annually for a period no shorter than the life of the permit or until bond release and monitoring reports are

## ATTACHMENTS

provided to the Ely District Office. If the presence and/or spread of noxious weeds are noted, appropriated weed control procedures will be determined in consultation with Ely District Office personnel and will comply with the appropriate BLM Handbook sections and applicable laws and regulations. All weed control efforts on BLM-administered lands will comply with BLM Handbook H-9011, H-9011-1 Chemical Pest Control, H-9014 Use of Biological Control Agents of Pests on Public Lands, and H-9015 Integrated Pest Management. Submission of Pesticide Use Proposals and Pesticide Application Records will be required.

- Mixing of herbicides and rinsing of herbicide containers and spray equipment would be conducted only in areas that are safe distance from environmentally sensitive areas and points of entry to bodies of water (storm drains, irrigation ditches, streams, lakes, or wells).
- Methods used to accomplish weed and insect control objectives would consider seasonal distribution of large wildlife species.
- No noxious weeds will be allowed on the site at the time of reclamation release. Any noxious weeds that become established will be controlled annually.

Reviewed by: /s/ Mindy Seal

Date: 12/30/2009

Mindy Seal  
Natural Resource Specialist

## ATTACHMENTS

